

# Cyber Attacks

---

By  
Jan-Malte Benneker  
Florian Grünert  
Enrique Jerlitschka  
Evely Jürgenson  
Glen Vinkel  
Jonas Schmitz



# **Table of contents**

---

- Definition
- Kinds of attacks
  - Trojan attack
  - Virus attack
  - Worms
  - Exploit security holes
  - DDoS

# **Table of contents**

---

- Cyberattacks launched
  - Estonia
  - Myanmar
  - Singapore
  - Telekom

# **Table of contents**

---

- Prevention
  - Spam filter
  - Software protection
  - Internet behavior
  - E-Mail behavior
- Cyberbullying
  - Definition
  - Types
  - Examples

# 1. Definition



# Definition

---

What is a cyber attack?

- also known as a computer network attack
- an attempt to damage a computer network
- often done for the purpose of spying

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# 2. Kinds of attacks



# Kinds of attacks

---

## Trojan attack

- designed as a legitimate program
- hides viruses or worms

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying



# Kinds of attacks

---

## Virus attack

- are self-replicating
- attached to other programs
- hide in any location in the system
- can change its own digital footprint



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Kinds of attacks

---

## Worms

- are self-sustaining programs
- use protocols as gateway to other networks
- are uncontrollable by owner
- monitor systems or change them

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Kinds of attacks

---

## Exploit security holes

- used by every virus, Trojan and worm
- occur because of outdated systems

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Kinds of attacks

---

## Distributed Denial of Service (DDoS)

- use worms and Trojans to create bot networks
- spam a system by requests
- block systems

Definition

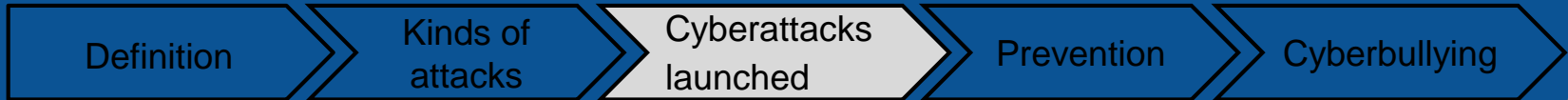
Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# 3. Cyberattacks launched



# Cyberattacks launched

---



Definition

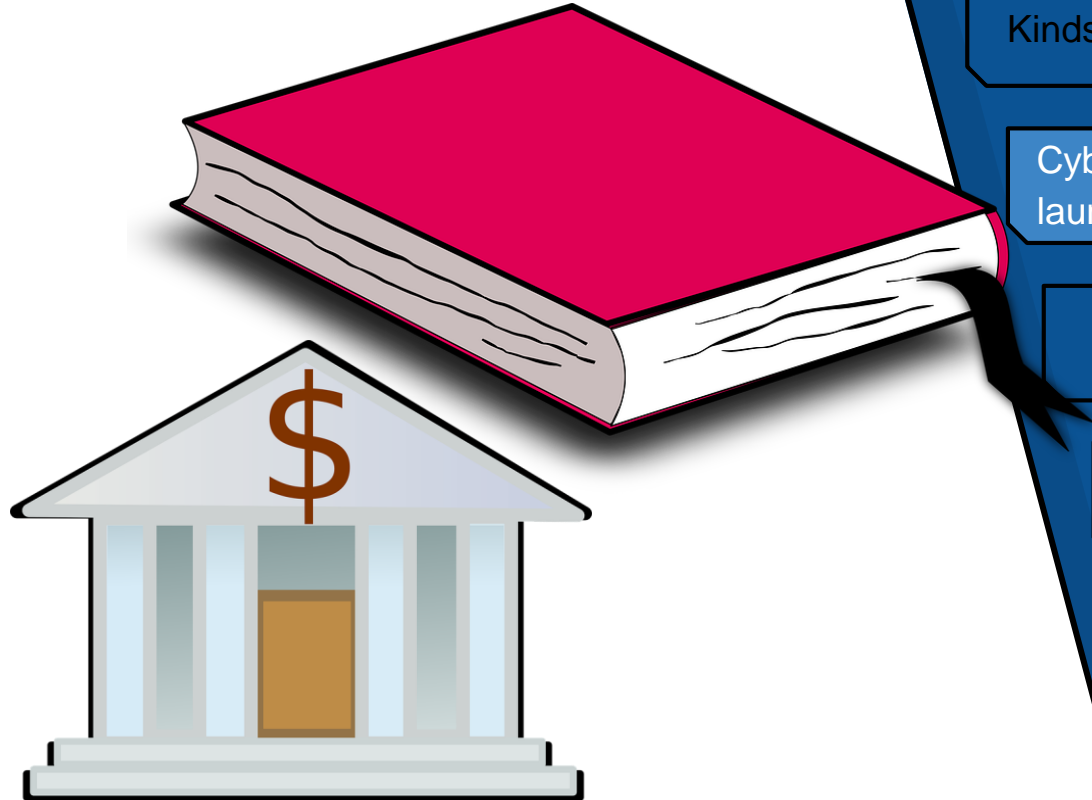
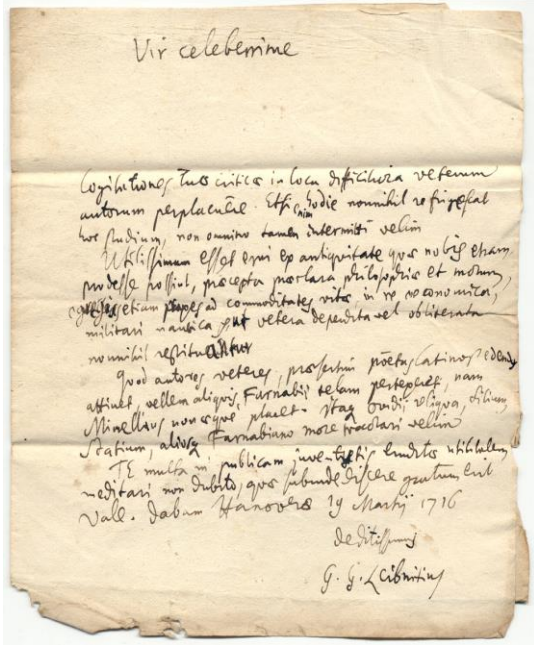
Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Cyberattacks launched



- Definition
- Kinds of attacks
- Cyberattacks launched
- Prevention
- Cyber Bullying

# Cyberattacks la



WIKIPEDIA  
encyclopedia

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying



# Cyberattacks launched

---



Definition

Kinds of attacks

Cyberattacks  
launched

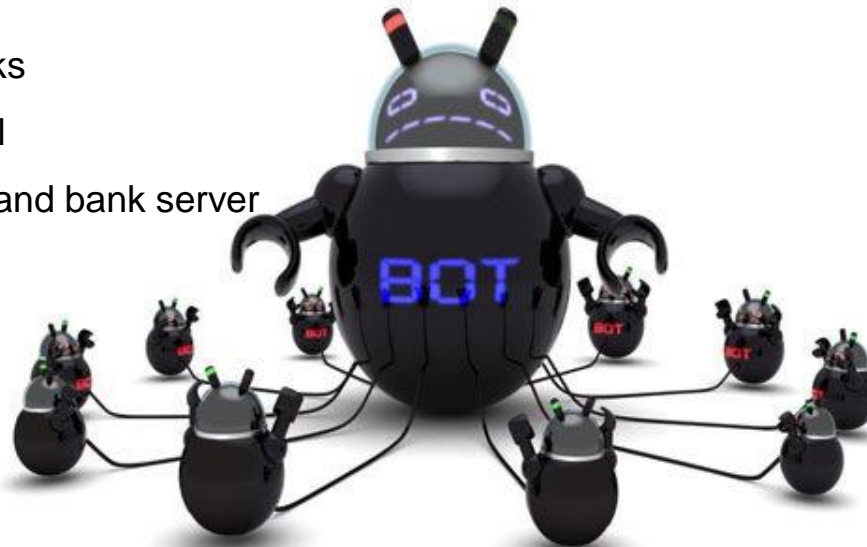
Prevention

Cyber  
Bullying

# Cyberattacks launched - Estonia



- 2007
- DDOS attack
- duration: three weeks
- effect: war memorial
- target: government and bank server



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Cyberattacks launched - Myanmar

- 2010
- DDOS attack
- 10 - 15 GBps
- duration: several days
- effect: manipulated election
- target: main internet provider MPT



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Cyberattacks launched - Singapore

- 2013
- hacked by "The Messiah"
- **"do not impinge on internet freedom"**
- effect: web censorship regulation
- target: webpages and VIPs



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Cyberattacks launched - Singapore

From Around The World  
Life in Review  
Dear ST: You just got hacked for misleading the people!

"ST is tempting fate" - newstation.sg Greetings Irene Tham & Straitstimes.com, I am The Messiah from the Anonymous Collective. We are a decentralized non-violent resistance movement, which seeks to restore the rule of law and fight back against the organized criminal class. We oppose any form of internet censorship among other things. Allow [...]

By Irene Tham  
Correspondent  
itham@sph.com.sg



1

IT'S GREAT TO BE SINGAPOREAN TODAY



Published on November 1st, 2013

"ST is tempting fate" - newstation.sg

ST Blogs

Most Commented

ST's Home Ground

From Around The World

On The Money

Life in Review

STs Sports Arena

Through The Lens

ST Blogs

ALSO BY IRENE THAM

The power of group buying

Dimwits on Facebook?

Buying music at a kiosk?

More legroom for lappie users

More than just technology

Popular Tags

Definition

Kinds of attacks

Cyberattacks launched

Prevention

Cyber Bullying

# Cyberattacks launched - Telekom



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Cyberattacks launched - Telekom

- 2016
- generated a DDOS
- target: upload malware on Telekom speedport router
- result: router shut themselves down



Definition

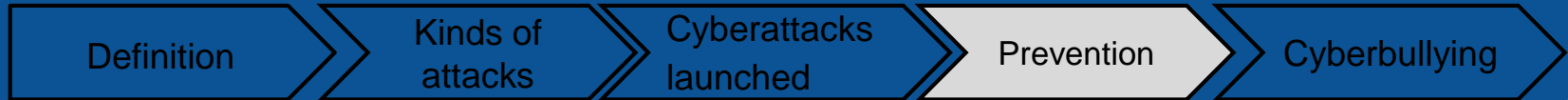
Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# 4. Prevention





# Prevention

---

## Spam filter

- is a program or addon
- filters advertising and spam

Used in...

mail-servers

email software

web browsers

systems for websites

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Prevention

---

Spam filter check:

E-mail addresses and urls

Sender's ip addresses

Text messages

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Prevention

---

Spam filter methods:

Blackfish	Bayes-filter	Database based
<ul style="list-style-type: none"><li>- uses a list of blocked addresses and domains</li><li>- searches for bad terms in emails and on websites</li><li>- deletes spam mails</li></ul>	<ul style="list-style-type: none"><li>- system is self-learning</li><li>- users define spam mails and the program learning</li><li>- method has a high hit rate</li></ul>	<ul style="list-style-type: none"><li>- is a central database</li><li>- contains a lot of spam mails</li><li>- run on central server</li><li>- checks if database contains mails</li></ul>

Definition

Kinds of attacks

Cyberattacks launched

Prevention

Cyber Bullying

# Prevention

---

## Anti virus software

- check documents and software
- stop running of malware
- push infected files in quarantine

Active scanning

Background scanning

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Prevention

---

Active scan:

- anti malware scan
- full scan
- processor power needed

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying



# Prevention

---

Background scanning:

- scan constantly
- scan in background
- use computer at the same time
- scan new files

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

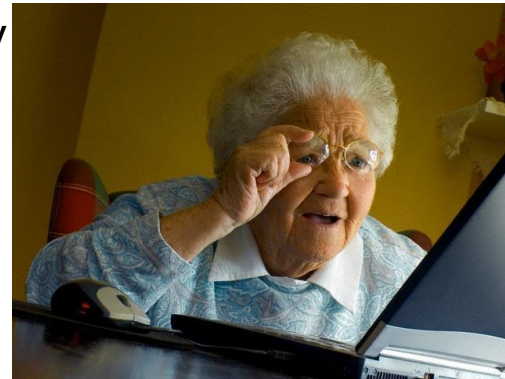
Cyber  
Bullying

# Prevention

---

Internet behavior:

- any website could contain a Trojan
- any email could contain a virus
- any software could be a Trojan
- any website could transfer your identity



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Prevention

---

E-mail behavior - Do not:

- open attachments of unknown mails
- open links if account update is required
- respond to spam mails



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying



# Prevention

---

Internet behavior:

- respect privacy
- update your browser constantly
- use safe passwords
- keep your full name or address secret
- delete regularly your browser data

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# 5. Cyberbullying



# Cyberbullying

---

What is cyberbullying?

- bullying using electronic technology
- harassing, threatening or intimidating someone
- cyberbullying can happen anywhere online

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Cyberbullying

---

## Types of cyberbullying

- harassment
- flaming
- exclusion
- outing
- masquerading



Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Cyberbullying

---

## Examples

- spreading mean rumours online
- sending hurtful texts
- posting embarrassing photos or videos

Definition

Kinds of attacks

Cyberattacks  
launched

Prevention

Cyber  
Bullying

# Thank you for your attention

---

Do you have any questions ?

